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ABSTRACT

George Bernard Shaw's play, "Pygmalion," tells the story of an educational experiment involving Eliza Doolittle and Henry Higgins. The characters set out to achieve a dramatic alteration in Eliza's linguistic ability, and they succeed. This paper uses "Pygmalion" as a case study in the treatment of education research subjects. Important moral issues in education research are highlighted and current practices in educational research are analyzed. The context created by the discussion of "Pygmalion" and the real life practice of education research provide the basis for advancing four proposals regarding the ethical treatment of education research subjects: (1) Standard practice in education research should include researchers devoting some time to educating the research subjects about the nature of the education research in which they participate. (2) Standard practice in education research should include some form of (financial) compensation to research subjects for time devoted to activities that are part of the research but that offer no significant promise of benefiting the subjects. (3) When education research projects involving different populations of students prove substantially beneficial to some, but not to other experimental groups, the unbenefitted groups should be offered the beneficial treatment, whenever feasible. (4) Researchers should entertain the possibility of conducting more risky, but no less scientifically rigorous, research experiments despite the ethical problems such research may pose. In addition to the case study provided by "Pygmalion," the discussion of these proposals includes considering the current state of the art of education research and current ethical practices, focusing on institutionalized laws, regulations, and codes governing the protection of research subjects. (Author/DB)

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Looking Out for Eliza Doolittle:

The Ethical Treatment of Education Research Subjects

As a case study in the treatment of education research subjects, the story of the educational experiment involving Eliza Doolittle and Henry Higgins in Shaw's Pygmalion raises provocative ethical questions. The two of them set out to achieve a dramatic alteration in her linguistic ability, and they succeed. But neither of them fully anticipates the effect of this achievement on Eliza Doolittle's future life before she finds herself already in the predicament of being upper class in outlook and behavior, but still lower class in material means. Does Eliza Doolittle knowingly consent to Higgins' experiment? Does Higgins exploit her, or does he respect her status as a moral being? Who is responsible for protecting her welfare - she herself, as a consenting subject? Henry Higgins, the education researcher? Colonel Pickering, the funding agent? Or Alfred Doolittle, Eliza's father? Does the world treat her fairly, in the end?

The dramatic qualities of this well-known fictional experiment highlight important moral issues in education research, and illuminate the analysis of current practices in education research. The context created by the discussion of Pygmalion, and the real life practice of education research, provide the basis for advancing four proposals regarding the ethical treatment of education research subjects:

(1) Standard practice in education research should include researchers devoting some time to educating the research subjects about the nature of the education research in which they participate.

(2) Standard practice in education research should include some form of (financial) compensation to research subjects for time devoted to activities that are part of the research but that offer no significant promise of benefitting the subjects.

(3) When education research projects involving different treatments for different populations of students prove substantially beneficial to some, but not to other, experimental groups, the unbenefitted groups should be offered the beneficial treatment, whenever feasible.

(4) Researchers should entertain the possibility of conducting more risky, but no less scientifically rigorous, research experiments, despite the ethical problems such research may pose.

In addition to the case study provided by Pygmalion, the following discussion of these proposals includes considering the current state of the art of education research and current ethical practices, focusing on institutionalized laws, regulations and codes governing the protection of research subjects. Assuming that the argument for these proposals is sound, the question is raised of how to accomplish the appropriate changes in existing research practice.

Eliza's Predicament

The typical situation of the education research subject parallels Eliza Doolittle's situation in Pygmalion. First there is Eliza's capacity to consent to the experiment. Eliza clearly does not comprehend fully the practical consequences of reaching the intended goal of transforming her speech patterns from a lower class to an upper class dialect, and the impact it will have on her life. Higgins' one attempt to explain it is both distorted and facetious.[1] In ordinary education research, too, elementary and secondary school subjects are unable to give fully voluntary, rational consent to participation: They commonly lack the knowledge to realistically assess the outcomes of the experiment; their rational decision making capacities vary wildly and are not usually mature, and the typical situation of the classroom calls into question the voluntariness of their consent. (And of course all of this presumes that they are in fact offered the opportunity to consent, which they frequently are not.)

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PICKERING: Excuse me, Higgins; but I really must interfere. Mrs. Pearce is quite right. If this girl is to put herself in your hands for six months for an experiment in teaching, she must understand thoroughly what she's doing...

HIGGINS: ... Eliza: you are to live here for the next six months, learning how to speak beautifully, like a lady in a florist's shop. If youre good and do whatever youre told, you shall sleep in a proper bedroom, and have lots to eat, and money to buy chocolates and take rides in taxis. If youre naughty and idle you will sleep in the back kitchen among the black beetles, and be walloped by Mrs. Pearce with a broom stick. At the end of six months you shall go to Buckingham Palace in a carriage, beautifully dressed. If the King finds out youre not a lady, you will be taken by the police to the Tower of London, where your head will be cut off as a warning to other presumptuous flower girls. If you are not found out, you shall have a present of seven-and-sixpence to start life with as a lady in a shop. ... Now are your satisfied, Pickering?

Shaw, Bernard Pygmalion New York: Penguin, 1957 [Originally published in 1913] pp. 45-46.

The second parallel turns on the disparity between Eliza's interest in participating in the experiment and Higgins' interest in conducting it. Higgins wants to know if phonetics can be used to transform anyone's speech patterns; Eliza cares only that it happens to her. Research by definition is essentially concerned with the welfare of subjects beyond the scope of the research project itself. Consequently, no participant who fully understands the project is immediately concerned with how it will benefit or harm the research subjects. Researchers must look beyond their own objectives of acquiring generalizable knowledge, if they are to consider fully the interests of their subjects.

This is something which the subjects themselves are not well-positioned to demand, because of their dependent status and the immaturity of their cognitive and social faculties. Shaw's choice of an economically disadvantaged woman as the research subject in Pygmalion emphasizes that the subject's social status or condition makes her exploitation especially easy to overlook. While Eliza is too old to fit the model of the typical education research subject in all respects, the basic point is still a propos: Like Eliza, children possess fewer rights than some adults and are less likely or able to exercise what rights they have. As with Eliza, the point is not that the researcher deliberately aims to exploit them, but rather that a researcher's careless disregard for the welfare of especially vulnerable subjects does not automatically run up against institutionalized safeguards, and the subjects themselves are unable to look out for their own welfare.

Henry Higgins is both like and unlike the ordinary education researcher. Like the standard education researcher, his experimental objective is to advance scientific knowledge (in this case, in the science of phonetics), with the benefit to the research subject being only incidental to the project. As Shaw puts it, "[Higgins] is of the energetic scientific type, heartily, even violently interested in everything that can be studied as a scientific subject, and careless about himself and other people, including their feelings."[2] Higgins' public image problem is also typical: His work in the science of phonetics is not widely respected or appreciated by the general society of the time, just as today the work of education research is frequently held in low regard. And Higgins' characteristic public behavior does little to improve the image of the scientist, something that is also frequently alleged about the behavior of the modern researcher.

Another part of the reason for the low regard of current education research, however, is explained by something that

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[2] Ibid. p. 34

distinguishes Higgins from most modern-day education researchers, namely, the striking and demonstrable success of Higgins' experiment: In less than six months, Eliza is transformed from a Covent Garden flower girl into a lady who passes for a princess at a London Embassy garden party.[3] In contrast, today's education research is unable to point to such outstanding capacity for successful applied research, particularly in the case of disadvantaged subjects like Eliza.

In fact, the extraordinary success of the Pygmalion experiment creates the play's central ethical problem: The project transforms Eliza into someone who can no longer live the life of the Covent Garden flower girl but who also lacks the material resources to live at the social level to which she is now both accustomed and suited. The problem goes unnoticed by either Higgins or Pickering at the outset of the experiment, while at the same time they do realize that Eliza is unable to comprehend fully the consequences of the experiment's expected outcome as it begins. Henry Higgins' mother - a bystander who knows nothing of science, but who appreciates the distinctions of British social class, and whose gender may well contribute to her consciousness of Eliza's situation - is the first to realize and draw attention to Eliza's predicament.

Unfortunately, education researchers do not often face such problems of helping their research subjects cope with the changes in their lives created by the remarkable success of experiments. In those cases in which significant positive effects are obtained for some of the subjects, the question becomes one of what is owed to those participants who were deliberately prevented from experiencing the beneficial effects of an experimental intervention. If such cases are relatively uncommon, it is still important to ask whether the criteria for justifying the decision to conduct such experiments should be revised.

Eliza's incapacity to give informed consent to the experiment, and the implications surrounding the vulnerabilities of her social status, imply issues that carry over to the present-day situation of education research. Current ethical principles and policies deserve serious reevaluation for the sake of the status of education research itself as well as to protect the interests of the Eliza Doolittles of today. Education

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[3] It should be noted however, that part of the positive outcome of the experiment does not seem to have been a function of the intended intervention. At least in Eliza's mind, the most crucial factor to explain the experiment's success was a uncontrolled confounding variable: She believes that Pickering's affect on her self-esteem, due to the respect with which he treated her, was actually more crucial than Higgins' ability to teach her how to change her speech. see ibid., pp. 121 ff.

researchers may have the educational welfare of children at heart in their dedication to research that will improve the education of tomorrow's students, but they should not overlook the welfare of the children of today whom they use to achieve their high-minded purposes.

The Doolittle Safeguards

Where no one immediately involved in the activity has both the interest and the ability to look out for the well-being of some of the participants, it makes sense to ask whether there are safeguards built into the institutions that govern such activity. Government, the universities and schools in which education research takes place, and the professional associations to which researchers belong are all possible sources of institutionalized protections of education research subjects. The present status of such protections provides a revealing picture of the existing assumptions about where the risks lie in education research.

A number of federal laws and regulations explicitly address education research and human research subjects protections. The major policy for human research subjects protections is found in the regulations for the protection of human subjects derived from the work of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research.[1] These regulations require that research supported by the Department of Health and Human Services that involves human subjects be reviewed by a committee at the institution where the research will be conducted - called an "Institutional Review Board" (IRB) - to determine whether the research protocol provides adequate protection for the subjects. The substance of the protections is largely drawn from the National Commission's Belmont Report,[2] which uses the ethical principles of **autonomy**, **justice**, and **beneficence** to set out guidelines concerning informed consent, fair selection of subjects, and risk/benefit considerations. Except for survey research and research involving tests where the individual subjects can be identified, however, research in

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[1] Code of Federal Regulations, Title 45 - Public Welfare - Part 46 - Protection of Human Subjects. Revised as of March 8, 1983. Department of Health and Human Services, National Institutes of Health, Office for Protection from Research Risks. These regulations implement amendments of the National Research Act, Public Law 93-348 (July 12, 1974) to the Public Health Service Act.

[2] The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research, the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. Published April 18, 1979, as a report of the Office of Protection from Research Risks, the Department of Health, Education, and Welfare.

ordinary educational settings involving normal educational practices are exempted from IRB review.[3] In fact, since almost all federally supported education research is funded by the Department of Education or some federal agency other than the Department of Health and Human Services, the IRB protections do not apply to most education research. Other laws govern particular aspects of education research activities:

> The Protection of Pupil Rights Act[4] entitles parents to access to materials used in educational research. It also prohibits requiring students to participate in research involving examinations or testing the primary purpose of which is to reveal information in any of seven sensitive categories, for example, political affiliations or potentially embarrassing mental or psychological problems.
>
> The Protection of the Rights and Privacy of Parents and Students Act[5] secures student and parent access to the students's educational records. It limits access to those records by others without the student's consent.
>
> Section 3001 of Public Law 100-297, which governs the collection of information by the National Center for Education Statistics, includes requirements to ensure the confidentiality of the data, breach of which is punishable by fines or a prison term of up to five years.[6]
>
> And finally, the regulations governing grants made by the U.S. Department of Education stipulate that "If a grantee

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[3] 45 CFR 46: 46.101, pp.4-5. It should be noted here that many institutions of higher education and other organizations where various kinds of research take place go well beyond the legal requirements for the review of education research, and examine research that is technically exempted from IRB review. This does not necessarily mean that child research subjects fare any better at these institutions than they do anywhere else with respect to the claims presented in this discussion.

[4] Protection of Pupil Rights Act, (20 U.S.C. 1232h). Enacted August 21, 1974, P.L. 93-380, Sec. 514(a), 88 Stat 574; amended Nov. 1, 1978, P.L. 95-561, sec. 1250, 92 Stat. 2355, 2356.

[5] Protection of the Rights and Privacy of Parents and Students, (20 U.S.C. 1232g). Enacted August, 1974, P.L. 93-380, sec. 513(a), 88 Stat. 571, 574; amended December 31, 1974, P.L. 93-568, sec. 2, 88 Stat. 1858, 1860; amended Aug. 6, 1979, P.L. 96-46, sec. 4(c) 93 Stat. 342; see also general reference Oct. 17, 1979, P.L. 96-88, sec 301, 93 Stat. 677.

[6] General Educational Provisions Act (GEPA) section 406(d) as amended by P.L. 100-297, sec. 3001(m), April 28, 1988.

uses a human subject in a research project, the grantee shall protect the person from physical, psychological, or social injury resulting from the project."[10]

The major professional association for education researchers - the American Education Research Association (AERA) - has a poorly publicized, fragmentary ethical code containing implications for human research subjects protection. It specifically concerns the elimination of race and sex bias in research and calls for education researchers to offer reports of the results of research to participants[11]. The AERA is currently in the process of creating an ethical code, including consideration of steps to see that the code is taken seriously. As of this writing, a code does not yet exist. By and large the various professional organizations in academic disciplines that commonly conduct research including studies of education (eg. psychology, sociology) already possess a code of some kind.[12]

The nature of the IRB system, because it requires the host institution to provide assurances of appropriate IRB review, covers the issue of human research subjects protections for research institutions where the research takes place. For the time being, then, the federal laws and regulations, including their implementation via the IRB system, constitute the major source of institutional protection of human subjects.

Taken together, the federal laws and regulations clearly rest on two related assumptions: First, although education research carries the risk of injuring the student by its incidental discovery - and public disclosure - of various sorts of personal information about the student, the student does not run a serious risk of harm by virtue of exposure to any kind of intervention in educational practice designed to test its effect

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[10] 34 CFR Subtitle A 75.681, Department of Education (Authority: 20 U.S.C. 1221e-3(a)(1)).

[11] A draft of this policy was published in Educational Researcher, but the final text was never published, and the text of this policy is not regularly or widely distributed to the AERA membership. See "AERA Guidelines for Eliminating Race and Sex Bias in Educational Research and Evaluation" Educational Researcher June/July 1985 pp. 15-16. See also the note in the Educational Researcher March/April 1986, p. 28.

[12] Ethical Principles in the Conduct of Research with Human Participants: The American Psychological Association, 1983. Professional Ethics: Statements and Procedures of the American Anthropological Association: The American Anthropological Association, 1983. Code of Ethics: The American Sociological Association, 1982.

on educating the research subject. Second, so long as they go unharmed, human subjects of educational research are not considered to be mistreated. The benign quality of experimental educational practices, and the no harm/no foul attitude toward mistreatment, lead to the position that institutionalized safeguards for education research subjects are unnecessary.

What does Eliza Deserve?

On closer inspection, however, the same principles on which the regulations were based can be used to reveal the position's inadequacy. The IRB system clearly reflects the ethical principles identified in the Belmont Report, and these principles provide the grounds for arguing that simply not harming the human research subjects is an inadequate defense for research as it is currently practiced. The argument can be further buttressed by the view that education - and by extension education research - is an activity whose nature implies a certain kind of good and is governed by definite norms of ethical behavior.

The Belmont Report, and the guidelines for IRB review, rely on principles of autonomy, justice, and beneficence. While no explicit reference is made to the sources of these principles, they are clearly recognizable as an eclectic set of principles drawn from various traditions flowing in the mainstream of modern Western moral philosophy: The principle of autonomy is a central element of Kantian moral philosophy[13], the principle of justioe presented roughly corresponds to distributive accounts of the principle in the Anglo American tradition developed by such philosophers as J.S. Mill and Rawls[14], and the rendering of the principle of beneficence is clearly indebted to the Utilitarian tradition.[15]

The principle of **autonomy** requires the recognition of human beings as moral agents, whose moral responsibility is recognized in their moral right to choose - and be responsible for - their own actions. Others who wish to engage them in collective

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[13] Immanuel Kant, Grounding for the Metaphysics of Morals, trans. by Ellington. Hackett: Indianapolis, 1981. [Originally published in 1785.]

[14] J.S. Mill, "Utilitarianism" (Chapter V) in The Philosophy of John Stuart Mill, Modern Library: New York, 1961 [Originally published in 1861.]. John Rawls, A Theory of Justice, Harvard: Cambridge, 1971.

[15] Jeremy Bentham, An Introduction to the Principles of Morals and Legislation, Hafner: New York, 1958. [Originally published in 1789. J.S. Mill, "Utilitarianism".

activity are therefore obliged to respect that right. Applied to research, the principle of autonomy implies the need for informed consent, that is, that research subjects must be asked to consent to the research in which they participate. In order to meet the requirements of informed consent, the subject's consent must be knowledgeable, voluntary, and exercised by someone who possesses the capacity for making rational choices. If the subject fails to meet these requirements, as is commonly the case with children, then the respect for the subject's autonomy is implemented by consent given by someone else whose role it is to protect that subject's welfare.

The principle of **justice** requires treating people equally according to some appropriate measure, or treating them unequally on the basis of some overriding concern. Applied to research, the principle of justice dictates that certain populations of subjects, especially those populations with a history of being discriminated against, should not bear an unfair burden of research risks and that they should receive a fair share of the benefits of research. In education research, the concern about exposing one population to research risks in order to obtain benefits for some other population is obviated by the common presumption that research results only apply to subjects of the given population. Therefore, the argument runs, the constraints of valid scientific methodology prevent the researcher from testing an hypothesis on one population and then using it to benefit another. If this is so, the question of justice focuses instead on whether sufficient research funds are being committed to studying the educational problems of particular populations, e.g. the handicapped, racial or cultural groups, the economically disadvantaged, the members of one gender, etc.

The principle of **beneficence** requires that the outcome of an action be a good to those who are affected by the action. Applied to research, because the outcome of research activity is unknown (by definition), the principle takes the form of a judgment based on a risk/benefit analysis. The risk of harm to the subjects must be outweighed by the prospects of benefits to all who might benefit from the application of acquired knowledge, including both the subjects themselves and others who benefit from the application of acquired knowledge in the future. Research protocols improve their status in this respect both by reducing the probability and gravity of harm to the subjects and by increasing the prospects for benefits, either to the subjects or to others.

These three ethical principles provide a basis for arguing that the typical treatment of education research subjects is unethical. The gist of the argument is this: Elementary and secondary school students are themselves incapable of fully informed consent. Proxy decisions about their participation in research made on their behalf must offer a reasonable prospect of

some benefit to them, and cannot presume their willingness to make sacrifices for the benefit of others. Assurances that they will go unharmed are insufficient to justify using their time without their consent, especially if there is no reasonable prospect of benefit. Even if there is no substantial risk of harm involved, their time, which they themselves would probably use to pursue other activities (say, playing with their friends) is valuable to them. They deserve compensation for it, unless it can be shown that their participation in the research is itself a benefit. Therefore, benefits - in the form of financial compensation or payment in kind - should be a part of any proposal, however innocent, to use children as subjects. Without this, the research proposal is also unjust, because it discriminates against a vulnerable population, namely, children.[16]

This conclusion justifies at least one or the other of the first two proposals introduced at the outset of this discussion: For activities carried out solely for education research purposes, subjects deserve some compensatory benefit, in the form of money, or education, or both.

This argument depends in addition on an empirical claim: Education research cannot produce demonstrably significant practical benefits to society resulting from its application to educational practice. This claim can be illuminated by comparison to the benefits of medical research: The substantial increases in life expectancy, and the decreases or virtual elimination of morbidity due to influenza, pneumonia, tuberculosis, measles, diptheria, whooping cough, gangrene, typhus, etc. are largely attributable to the benefits of the application of medical research findings. There is no such evidence to suggest substantial improvements in education as a result of education research. On the contrary, the available evidence suggests that there have been no such improvements to which education research might have contributed.[17]

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[16] Current education research proposals sometimes propose compensation to adult research subjects, e.g. college students, or - increasingly - teachers. Almost never do these proposals include plans to compensate nonadult subjects. It seems likely that this difference is at least in part explained by the fact that the adults are better positioned to protect their interests, and do so. Children - like other vulnerable populations - are easier to exploit.

[17] One source of evidence here is the series of National Assessment of Education Progress (NAEP) Report Cards issued by the National Center for Education Statistics. See, for example, Accelerating Academic Achievement (1990), which provides 20-year trend data in the major subjects, where achievement has been level

Certainly the argument must be amended if and when education research is able to demonstrate substantial benefits. This is the rationale for the third proposal introduced in this discussion. If education research does prove beneficial to the subjects, that benefit goes some way toward justifying their participation, despite their inability to consent to it. However, in the common case of controlled experiment research designs, there are (control or other treatment) groups who do not benefit from some effective intervention, and whose performance is used to buttress the claim that others did indeed benefit. These subjects still deserve something for participation. As is commonly the case in medical research, subjects who did not receive the most beneficial treatment in the course of the actual research should be offered that treatment when the experiment is concluded, wherever feasible, or some other compensation.

The **forms** of compensation contained in the first two proposals deserve some scrutiny. The rationale for recommending money is relatively obvious: Money is generally recognized as something valuable to anyone, because it can be used to acquire any number of different kinds of generally desirable goods that will serve a variety of purposes, some of which any agent is likely to have. No presumptions need to be made about the goals of the subjects.

The other idea is to directly benefit the education of the research subjects by having the researchers return to the research site to discuss their research. It should be understood that what is being proposed here is that researchers discuss their research in a form designed to meet the purpose of teaching students about the characteristics of education research, **not** (necessarily) to provide them with complete and detailed information about the results. While such an educational benefit is not as transparently versatile as money, it is reasonable to assume that any subject engaged in educational activity is at least committed to the objectives of education in general and would be benefitted by learning something about the nature of research.

There are a number of different factors that appear to favor educational activity as a sort of payment in kind. First of all, the conditions of education research imply that this is a

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or has declined. It should be noted that this claim is entirely consistent with the possibility that education research has produced knowledge which **if applied** would lead to substantial benefits, but has not been applied on any wide scale basis. The point is that the benefit has not been achieved, for whatever reasons.

particularly promising educational opportunity: The chances are relatively good that the students will be **engaged** in the topic, because the researcher will be talking about what has happened to the students themselves. Second, no matter what the level of sophistication, the topic of education research is full of opportunities to encourage the development of **critical reasoning skills**. Third, the exercise will improve the subject's **ability to behave as a moral agent** the next time he or she is asked to participate in research; that is, the subject will develop a better understanding of what it means to be asked to consent to participate in research.

Certain advantages also accrue to the research community if researchers perform this educational task. First of all, the tarnished reputation of education researchers would be improved. Education researchers are often criticized for appearing on the scene of education in progress, taking up the time and energy of education practitioners and students, and then disappearing, leaving only a copy of a scholarly report that is clearly written with a different audience in mind. If researchers were to return and teach children something about research, they might end up with a better public image.

Such behavior could also provide an important lesson in moral education - a lesson that extends to all of education as an activity. Understood as a form of human "practice," education is a kind of human activity in which people strive to realize goods that are produced only in and through such activities, namely, knowledge, understanding, and certain intellectual or moral virtues.[18] The preservation and improvement of the practice requires cooperation among its members, whose reliance upon each other is necessary in order to exercise their own excellence in the activity; not only do educators build on the past contributions of others to the profession, but teachers depend both on each other and on their students to teach well, and students depend on each other and on their teachers to learn better.

Likewise, education researchers cannot further the understanding of education without both a familiarity with existing research and the continuing cooperation of educators and students. The nature of research itself - gaining knowledge about the existing forms of education practice in order to improve the teaching and learning activities of future educators and students, as well as to create new questions - presumes the participation of people beyond all those presently involved. By talking with their subjects about their research, the researchers both learn and teach an important lesson about participating in

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[18] Alasdair MacIntyre, After Virtue. Notre Dame: Notre Dame, Indiana, 1981.

education, namely, that education is an essentially cooperative activity in which the actions are governed by objectives that include not only the development of the individual's own excellences but also the flourishing of others. A constant acknowledgment of this cooperative feature of education is crucial to the advancement of its well-being.

The researcher is specifically committed to an educational ideal because the role of the researcher is unintelligible without the objective of advancing the ends of education. Consequently, if anyone should be first in line to do something to further the ends of education regardless of personal benefit, it is the researcher, not the child. In other research fields this has led to the argument that researchers constitute the best candidates for research subjects, but (unfortunately) they are almost always too old to serve as education research subjects.[19]

This lesson complements the underlying rationale for the existing IRB system. Criticism of the lack of enforcement powers allocated to IRBs in the current system has clarified the educational nature of the system's operation. The IRB system functions to educate researchers (and IRB members themselves) about the ethical aspects of research activity. It requires them to take those aspects into consideration in the course of designing their research protocols. The preventive measures employed by the system depend primarily on the researchers' own enlightened understanding of the subjects' situation, not the IRB's ability to police the research to ensure that the researchers follow the approved protocol. The recommendation proposed here furthers the same objective by placing the researcher in a position once again to consider and respond to the interests of the subjects.

At this point, we can return to the question of whether Henry Higgins exploited Eliza Doolittle in the Pygmalion experiment. From the standpoint of the position taken here, the answer is partly. Eventually, Eliza does receive financial compensation, in the form of Colonel Pickering's wedding present to her and Freddy, which provides the funds for the flower shop. But the argument advanced here implies a preferable outcome, which would have better served the interests of Eliza, Higgins, and the science of phonetics. The audience learns in the play

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[19] On this point, see the interesting discussions by Marx Wartofsky , "Doing It for Money", Appendix commissioned paper for the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, (Department of Health, Education, and Welfare: 1974), and Hans Jonas, "Philosophical Reflections on Experimenting with Human Subjects", in Ethical Aspects of Experimentation with Human Subjects, Daedalus - Journal of the American Academy of Arts and Sciences, Boston, Spring 1969.

that Eliza developed a special talent for hearing dialects and, in the sequel, that she was not an especially good businesswoman. What Higgins really owed Eliza was to educate her more fully into the practice that had transformed her, to train her as an applied researcher in the science of phonetics.

Who Should Look Out for Eliza?

Fortunately for Eliza, an ordinary member of the public - the mother of Henry Higgins - notices Eliza's impending exploitation, and takes steps to prevent it. But the protection of research subjects cannot always depend on such fortunate intervention. How could better means of protection be afforded, and who should do so? Current practice suggests that relying solely on the good will of individual researchers is inadequate, but there are other possible sources to turn to for subject protections. These days, government, foundations, and education associations fund research, rather than individuals like Colonel Pickering; and there is a professional association of education researchers, and not merely the fraternal or rival relations of other individual researchers, represented in the play by Colonel Pickering and Nepommuck, respectively.

Which of the entities is in a good position to help? This is not an idle question. Activities are presently under way at both the federal level and in the professional association to reform the current ethical guidelines for research. Following the recommendation of the Presidential Commission for Biomedical and Behavioral research, the federal government has published proposed rules regarding the protection of human subjects. Final regulations will be forthcoming.[20] The AERA has appointed a committee that is in the process of formulating a proposal for ethical guidelines for the education research community. Either of these activities could result in guidance that in one way or another addresses the issues raised here.

Different obstacles face the two different institutions. The federal government must expect to incur resentment and waste. If the federal government expands its role in this area, researchers are likely to feel that their intrusion is unwarranted, and may either resist it, or at least not take it seriously. The IRB mechanism would probably mitigate the creation of resentment, because it operates by requiring the researchers to monitor themselves. The chances are also good that the redtape burden will be relatively large if the federal

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[20] Federal Policy for the Protection of Human Subjects; Notice and Proposed Rules, Office of Science and Technology Policy, Executive Office of the President: Federal Register, November 10, 1988.

government is the institution involved.

The major problem facing the AERA is whether the association can devise a system that will have any genuine impact on its members. The mere existence of a code is unlikely to exert any real influence. The AERA is unlikely to expend the will and resources to use an enforcement-oriented strategy. The challenge is to design and implement an educational strategy - either an IRB system or some other mechanism - in a way that affects how researchers think and act.

The fourth proposal offered at the beginning of this discussion ups the ante of the importance of the issues. The proposal - that education researchers should entertain more radical experiments - is a reflection of the current status of education and education research, in light of both the Doolittle case study and the state of the art in medicine. In both of these latter instances, success seems to have been won through means that involved significant risks. Current education research, on the other hand, does not take such risks, which may reflect too little daring on the part of education researchers. Perhaps radical improvement in education practice requires a real transformation of education practice. Experiments designed to test such transformative models involve real risks. Not that experiments should be conducted simply because they are risky. Experiments should not be conducted regardless of the technical soundness of the research design (although here, too, innovation should be encouraged). The prospects of benefits in such experiments would have a greater burden of justifying the larger risks to the subjects. Given all that, however, it seems that education researchers should seriously ask whether bolder experiments are called for, in the interest of not wasting both their own and their subjects lives. After all, shouldn't there be cogent reasons for believing that one's work is more important than selling flowers?

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